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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/661,680 | 09/15/2003 | Tsang-Yi Lin | 3313-1031P | 9150 |
| 2292 | 7590 | 07/07/2005 | EXAMINER | |
| BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747 | | | LEE, CHRISTOPHER E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2112 | |
| DATE MAILED: 07/07/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|------------------------------|------------------------|---------------------|--|
| | 10/661,680 | LIN, TSANG-YI | |
| | Examiner | Art Unit | |
| | Christopher E. Lee | 2112 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 September 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 1-6 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 15 September 2003 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

Receipt Acknowledgement

1. Receipt is acknowledged of the Preliminary Amendment filed on 15th of September 2003. No claim has been amended; no claim has been canceled; and no claim has been newly added. Currently, 5 claims 1-6 are pending in this application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

10 The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claims 3-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while 15 being enabling for pivotally connecting the vertical arm to a side of the body by a pivotal connecting position (See Specification, page 4, lines 3-7 and Fig. 3), does not reasonably provide enablement for pivotally connecting the vertical arm to a side of the body by a pivotal connecting end (See Claim 3, lines 5-7). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims.

In fact, the Applicant defines the claimed subject matter “pivotal connecting position” is located 20 at shaft 123 in Fig. 3, and the claimed subject matter “pivotal connecting end” is located at the end of the vertical arm 121 in Fig. 3, in light of the specification, in particular, on page 4, lines 3-7. Therefore, the Examiner doubts how the vertical arm is pivotally connected to a side of the body by said pivotal connecting end, instead of said pivotal connecting position because said pivotal connecting end is not at the pivot, i.e., not at the shaft, in light of the specification.
- 25 Furthermore, the Applicant claims “the pivotal connecting end of the vertical arm has a shaft connecting to the side of the body” in lines 1-3 of the claim 6. However, the specification clearly enables

the scope of invention such as "the pivotal connecting position of the vertical arm has a shaft connecting to the side of the body" on page 4, lines 6-7, and Fig. 3.

The Examiner presumes that the vertical arm is pivotally connected to a side of the body by said pivotal connecting position having a shaft in light of the specification for the purpose of claim rejection
5 based on prior art.

The claims 4-6 are dependent claims of the claim 3.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10 5. Claims 3-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claim 3, the terms "one side of the bottom", and "the top side of the body" are relative terms which render the claim indefinite.

15 Actually, the claimed subject matters "programmable logic controller", and "extra memory" could be positioned in any orientation because the PLC (programmable logic controller) is a small computer in light of the art in process control (See Specification, page 1, lines 9-12). Therefore, the meaning of the terms "one side of the bottom", and "the top side of the body" are relative to the orientation of the claimed subject matters "programmable logic controller", and "extra memory". In other words, those terms render
20 the claim indefinite without a clear definition of the orientation for the claimed subject matters "programmable logic controller", and "extra memory".

However, the terms "one side of the bottom", and "the top side of the body" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, i.e., the orientation of the claimed subject matters "programmable logic controller", and "extra memory", and one of ordinary
25 skill in the art would not be reasonably apprised of the scope of the invention.

Furthermore, the claim recites the subject matters "one side of the bottom", and "the top side of the body" in lines 4 and 6. However, it recites the subject matter "the side of the body" in line 7 without designating which one of the two different subject matters, i.e., the top side, the bottom side, a front side, a rear side, a left side, and/or a right side of the body", and thus it fails to clearly point out which one of the many 5 potential sides of the body in the claim, and it makes the claim be indefinite.

Therefore, the Examiner presumes that the term "one side of the bottom" in line 4 could be considered as --one side of the bottom having the connecting port--, and thus the term "the top side of the body" in line 6 could be considered as the opposite side of the bottom side in light of the drawing Fig. 3, since those are not clearly pointed out in the claims. In addition, the Examiner presumes that the term "the side of the 10 body" in line 7 could be considered as --a side of the body--, since it is not clearly pointed out in the claims. The claims 4-6 are dependent claims of the claim 3.

In the claim 5, it recites the limitation "another end of the vertical arm bends downward to form a hook" in line 2. However, the meaning of the terms "another end of the vertical arm" is relative to the end of the claimed subject matter "vertical arm". In other words, the term renders the claim indefinite without 15 a clear definition of the end of the claimed subject matter "vertical arm".

However, the term "the end of the vertical arm" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, i.e., which one of the ends of the claimed subject matter "vertical arm", and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, and thus it fails to clearly point out which one of the ends of the vertical arm as another end 20 of the vertical arm in the claim, and it makes the claim be indefinite.

Therefore, the Examiner presumes that the term "another end of the vertical arm" in line 2 could be considered as --an end of the vertical arm-- since it is not clearly pointed out in the claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

5 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nagakura et al. [EP 0 852 355 A2; hereinafter Nagakura].

10 *Referring to claim 1*, Nagakura discloses a programmable logic controller (i.e., Programmable Controller in Fig. 2) with an extra memory (i.e., Memory Card 5 of Fig. 2), comprising:
a PLC (i.e., CPU portion 10 of Fig. 2), comprising

- at least a memory (i.e., Internal Memory 1, Program Memory 12 and Data Memory 13 in Fig. 2) storing a plurality of data codes (i.e., PLC Ladder commands for controlling Control Target via Input/Output I/F 15 in Fig. 2) and an indicating instruction (i.e., page changing command, e.g., WREFFF=0 in Fig. 4, and WREFFF=WX 0 in Fig. 5; in fact, said command being for writing a page data into the page changing register; See col. 5, lines 41-46), and

- a CPU (i.e., CPU 11 of Fig. 2) for reading and executing said data codes (See col. 5, lines 38-51);
- a data bus (i.e., Bus 19 of Fig. 2), connecting electrically to said CPU (See col. 5, lines 48-51);

20 and

- an extra memory (i.e., Memory Card 5 of Fig. 2), connecting to said data bus (i.e., said Memory Card 5 is connected to said Bus 19 in Fig. 2), comprising

- at least a data code (See col. 9, lines 3-6); wherein

- after said indicating instruction stored in said memory (i.e., said page changing command, shown in Figs. 4 and 5) has been read (See col. 7, lines 12-17, and 25-28), said CPU reads the address of said extra memory (i.e., the address of

appropriate PAGE in Memory 7 of Memory Card 5, which is mapped to Expansion Area 4, i.e., WRF000 through WRFFFF, in Fig. 1) to execute said data code stored in said extra memory (See col. 6, line 24 through col. 7, line 6).

5

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

10 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakura [EP 0 852 355 15 A2] as applied to claim 1 above, and further in view of Wakabayashi et al. [US 5,659,459 A; hereinafter Wakabayashi].

Referring to claim 2, Nagakura discloses all the limitations of the claim 2, except that does not expressly teach said extra memory is swathed by a housing.

Wakabayashi discloses a cartridge for electronic devices (i.e., Cartridge 503 of Fig. 1), wherein

20 • an extra memory (i.e., IC card 200 of Fig. 2; See col. 12, lines 42-44) is swathed by a housing (i.e., printed circuit board 550, upper case 100 and lower case 120 in Fig. 2; See Fig. 4B and col. 12, lines 44-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included said (i.e., Memory Card), as disclosed by Nagakura, in said cartridge, as disclosed 25 by Wakabayashi, for the advantage of providing an improved electromagnetic radiation isolation (See Wakabayashi, col. 5, lines 32-35).

10. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagakura [EP 0 852 355 A2] in view of Wakabayashi [US 5,659,459 A] as applied to claim 2 above, and further in view of Aleshevich et al. [US 6,554,628 B2; hereinafter Aleshevich].

Referring to claim 3, Nagakura, as modified by Wakabayashi, discloses all the limitations of the 5 claim 3, including said housing (i.e., printed circuit board 550, upper case 100 and lower case 120 in Fig. 2; See Wakabayashi, Fig. 4B and col. 12, lines 44-60) comprises a body (i.e., printed circuit board 550 of Fig. 2), accommodating said extra memory inside (i.e., IC card 200 of Fig. 2; See Wakabayashi, col. 12, lines 42-44), comprising a connecting port (i.e., insertion plug 551 of Fig. 2) extending downward vertically on one side of the bottom having said connecting port (See Wakabayashi, col. 10, lines 38-46), 10 except that does not teach said housing comprises a moving member, comprising a horizontal arm and a vertical arm connecting to each other, said horizontal arm crossing the top side of said body and said vertical arm pivotally connecting to a side of said body by a pivotal connecting position.

Aleshevich discloses a remote cable extractor (See Abstract and Figs. 1 and 2), wherein

- a housing (i.e., Connector Assembly 12 in Figs. 1-2) comprising:
 - a moving member (i.e., Extractor 20 in Figs. 1-3), comprising
 - a horizontal arm (i.e., extended member between first member 36 and second member 68 in Fig. 3; See col. 3, lines 53-54) and a vertical arm (i.e., First Member 36, and Second Member 68 in Fig. 3) connecting to each other (See col. 3, lines 51-62),
 - said horizontal arm (i.e., said extended member between said first and second members) crossing the top side of a body (i.e., Body 18 of Fig. 2; See col. 3, lines 18-20) and said vertical arm pivotally connecting to a side of said body by a pivotal connecting position (i.e., the center of hinge pin 32 in Figs. 1-3; See col. 3, lines 26-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have attached said moving member (i.e., Extractor), as disclosed by Aleshevich, to said housing (i.e., printed circuit board, upper and lower cases of said Cartridge), as disclosed by Nagakura, as modified by Wakabayashi, for the advantage of providing an easy means of separating said housing (i.e., 5 connector assembly) from an electrically connected programmable logic controller (i.e., electrical device; See Aleshevich, col. 1, lines 44-47).

Referring to claim 4, Aleshevich teaches

- the vertical distance (i.e., a first distance on first member 36 between the center of hinge pin 32 and the tip of second end 44 in Figs. 1-3) between said pivotal connecting position (i.e., the center of said hinge pin) of said moving member (i.e., Extractor 20 in Figs. 1-3) and the end of a pivotal connecting end (i.e., said second end) is greater than the vertical distance (i.e., a second distance on first member 36 between the center of hinge pin 32 and the front surface 20 in Figs. 2-3) between said pivotal connecting position (i.e., the center of said hinge pin) of said moving member (i.e., said Extractor) and the bottom of said body (i.e., front surface 20 of Body 18 in 10 Figs. 2-3; in fact, the first distance is greater than the second distance for forcing connector apart 15 from electrical device when cam arm is rotated, which is disclosed at col. 3, lines 25-39).

Referring to claim 5, Aleshevich teaches

- an end of said vertical arm (i.e., a first end 42 of First Member 36, and Second Member 68 in Figs. 1-3) bends downward (i.e., bending toward to front surface 20 of Body 18 in Figs. 1-3) to form a hook^{cf. Def.} (i.e., forming a hook from said second end 44 via said first end 42 toward Cam Arm 38 in Figs. 1-3).

^{cf. Def.} "hook" is defined as "a curved or bent device for catching, holding, or pulling" by Merriam-Webster's Collegiate® Dictionary (10th ed.).

Referring to claim 6, Aleshevich teaches

- said pivotal connecting position (i.e., the center of hinge pin 32 in Figs. 1-3) of said vertical arm (i.e., First Member 36, Second Member 68, and Cam Arm 38 in Fig. 3) has a shaft (i.e., hinge pin 32 in Figs. 1-3) connecting to the side of said body (i.e., Body 18 of Fig. 2; See col. 2, lines 59-61 and col. 3, lines 3-5).

5

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

With regard to Programmable Logic Controller,

Oyama et al. [US 2002/0062158 A1] disclose Programmable Controller System.

10

Yamauchi [US 5,233,697 A] discloses PLC processor and PLC.

McNutt [US 5,802,389 A] discloses expansion module address method and apparatus for a programmable logic controller.

Walacavage et al. [US 6,442,441 B1] disclose method of automatically generating and verifying programmable logic controller code.

15

Ashida [US 4,961,131] discloses programmable controller.

Boggs et al. [US 6,486,725 B2] disclose programmable logic controller method, system and apparatus.

Pavicic et al. [US 4,215,399] disclose special function control system for a dual microprocessor programmable process control system.

20

With regard to Removable Memory Cartridge,

Post et al. [US 6,608,564 B2] disclose removable memory cartridge system for use with a server or other processor-based device.

Pitt [US 4,648,066] discloses memory module.

Enomoto et al. [US 5,863,213 A] disclose memory card connector and adapter therefor.

Chen [US 6,672,904 B1] discloses memory card connector.

With regard to Device latching and releasing Mechanism,

Pham et al. [US 5,906,497 A] disclose processor retention frame and extraction device.

Larabell [US 5,660,553 A] discloses bracket.

5 Bertke [US 6,716,044 B2] discloses ejectable electrical connector and method of use.

Branch et al. [US 6,666,484 B1] disclose pivoting type latch for removable electronic devices.

Pang et al. [US 6,851,867 B2] disclose cam-follower release mechanism for fiber optic modules with side delatching mechanisms.

10 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Lee whose telephone number is 571-272-3637. The examiner can normally be reached on 9:30am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this 15 application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic 20 Business Center (EBC) at 866-217-9197 (toll-free).

Christopher E. Lee
Examiner
Art Unit 2112

CEL/

